UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,068	10/21/2003	Roger Burrowes Bradford	SAIC0022-CON	2824

27510 7590 03/02/2005

KILPATRICK STOCKTON LLP
607 14TH STREET, N.W.
WASHINGTON, DC 20005

EXAMINER	
ALAM, SHAHID AL	

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/689,068	BRADFORD, ROGER BURROWES	
	Examiner	Art Unit	
	Shahid Al Alam	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8 and 12* is/are allowed.

6)☒ Claim(s) *9,10 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed November 10, 2004 with respect to claims 9, 10 and 11 for the limitation as argued have been fully considered and but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., LSI includes the production of a latent semantic vector space by applying SVD to a TxD matrix formed from a document collection) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Kupiec with Liddy to make the system more users friendly because Kupiec generate hypotheses without user aid (column 3, lines 44 – 46; Kupiec). Relieving user's from generating hypotheses makes the system more users friendly.

Liddy's teaching of relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector. The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. **Relevant documents will be re-ranked and re-clustered.** . . ., Using the same similarity measures described above for matcher 55, the "informed" query vector is compared to the set of vectors of all documents above the cut-off criterion produced by the initial query (or for the whole corpus, as desired), then a revised query-to-document concept similarity score is produced for each document. These similarity scores are the system's revised estimation of a document's predicted relevance. The set of documents

are thus re-ranked in order of decreasing similarity of each document's revised predicted relevance to the "formed" query on the basis of revised similarity value. column 26, lines 5 – 29). **The matching of documents to a query organizes documents by matching scores in a ranked list.** The total number of presented documents can be selected by the user, the system can determine a number using the Recall Predictor (RP)function, or, in the absence of user input, the system will retrieve all documents with a non-zero score. Note that documents from different sources are interfiled and ranked in a single list (column 24, lines 56 – 63). The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered (column 26, lines 9 – 12). Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector. . . . , the user is given the opportunity to determine whether the system's analysis of the query is satisfactory or needs modification. . . ., Once the documents have been retrieved and placed in folders, the user is given an opportunity to modify the retrieval/foldering criteria (300o) and document display criteria (300p). The user may then select documents (300q) for printing or downloading (300r), or for the purpose of refining the query (300s--see FIG. 19). If the user has marked documents deemed by the user to be particularly relevant, the user can invoke the more-like-marked feature (300t), which causes the query representation to be modified in view of the documents and the refined query to be rerun (column 26,

lines 6 – 9 and column 28, lines 17 – 42) clearly teaches applicant's claimed limitation.

In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Action.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,963,940 issued to Elizabeth Liddy et al. ("Liddy") and in view of U.S. Patent Number 5,519,608 issued to Julian Kupiec ("Kupiec").

With respect to claim 9, Liddy teaches indexing results of a document retrieval operation into a latent semantic index vector space (column 10, lines 22 – 24 and column 16, lines 1 – 17);

receiving information regarding the relevancy, with respect to information needs, of a first subset of the results (. . . the term "document" should be taken to mean text, a unit of which is selected

for analysis, and to include an entire document, or any portion thereof, such as a title, an abstract, or one or more clauses, sentences, or paragraphs, . . .the term "query" should be taken to mean text that is input for the purpose of selecting a subset of documents from a document database (column 4, line 59 - column 5, line 3; ..., Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector. The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered. . . ., Using the same similarity measures described above for matcher 55, the "informed" query vector is compared to the set of vectors of all documents above the cut-off criterion produced by the initial query (or for the whole corpus, as desired), then a revised query-to-document concept similarity score is produced for each document. These similarity scores are the system's revised estimation of a document's predicted relevance. The set of documents are thus re-ranked in order of decreasing similarity of each document's revised

predicted relevance to the "formed" query on the basis of revised similarity value. column 26, lines 5 – 29);

ranking a second subset of the results based on a current ranking strategy and modifying the current ranking strategy to incorporate at least one modification based at least in part on: location of the second subset in the vector space, and a subset of the received relevancy information (The matching of documents to a query organizes documents by matching scores in a ranked list. The total number of presented documents can be selected by the user, the system can determine a number using the Recall Predictor (RP) function, or, in the absence of user input, the system will retrieve all documents with a non-zero score. Note that documents from different sources are interfiled and ranked in a single list (column 24, lines 56 – 63). The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered (column 26, lines 9 – 12). Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector...., the user is given the opportunity to determine whether the system's analysis of the query is satisfactory or needs modification. ..., Once

the documents have been retrieved and placed in folders, the user is given an opportunity to modify the retrieval/foldering criteria (300o) and document display criteria (300p). The user may then select documents (300q) for printing or downloading (300r), or for the purpose of refining the query (300s--see FIG. 19). If the user has marked documents deemed by the user to be particularly relevant, the user can invoke the more-like-marked feature (300t), which causes the query representation to be modified in view of the documents and the refined query to be rerun. (column 26, lines 6 – 9 and column 28, lines 17 – 42);

ranking the second subset based on the modified ranking strategy; and determining which of: the ranking based on the current ranking strategy, and the ranking based on the modified ranking strategy better corresponds to the relevancy information (The matching of documents to a query organizes documents by matching scores in a ranked list. The total number of presented documents can be selected by the user, the system can determine a number using the Recall Predictor (RP)function, or, in the absence of user input, the system will retrieve all documents with a non-zero score. Note that documents from different sources are interfiled and ranked in a single list (column 24, lines 56 – 63). The "informed" query vector will be matched against all

document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered (column 26, lines 9 – 12). Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector...., the user is given the opportunity to determine whether the system's analysis of the query is satisfactory or needs modification. ..., Once the documents have been retrieved and placed in folders, the user is given an opportunity to modify the retrieval/foldering criteria (300o) and document display criteria (300p). The user may then select documents (300q) for printing or downloading (300r), or for the purpose of refining the query (300s--see FIG. 19). If the user has marked documents deemed by the user to be particularly relevant, the user can invoke the more-like-marked feature (300t), which causes the query representation to be modified in view of the documents and the refined query to be rerun. (column 26, lines 6 – 29 and column 28, lines 17 – 42).

With respect to claim 9, Liddy does not explicitly teach a hypothesis for refining a strategy for ranking the results of a document as claimed.

Kupiec teaches claimed hypotheses (column 4, lines 36 – 37 and 54 – 58, column 10, lines 39 – 58; Kupiec).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Kupiec with Liddy to make the system more users friendly because Kupiec generate hypotheses without user aid (column 3, lines 44 – 46; Kupiec). Relieving user's from generating hypotheses makes the system more users friendly.

The subject matter of claim 10 is rejected in the analysis above in claim 9 and these claims are rejected on that basis.

The subject matter of claim 11 is rejected in the analysis above in claim 9 and these claims are rejected on that basis.

Allowable Subject Matter

3. Claims 8 and 12 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Regarding claims 8 and 12, Applicant's claimed invention of ". . . receiving information regarding the relevancy . . . ranking the retrieved documents at least in part . . . forming at least one candidate query . . . analysis of locations of the retrieved documents in the latent semantic index vector space . . . applying at least one candidate query . . . ranking the documents retrieved in response to each applied candidate query . . ." combined with " . . . comparing the ranking of documents . . . choosing the query, from among the current query and each candidate query, which produces the best ranking." would not have been obvious over, nor would have been fairly suggested by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid Al Alam whose telephone number is (571) 272-4030. The examiner can normally be reached on Monday-Thursday 8:00 A.M.- 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shahid Al Alam
Primary Examiner
Art Unit 2162

27 February 2005